REMARKS

Claims 1-8 and 16-17 are pending. Claims 9-15 and 18-23 were previously canceled. Entry of this Amendment and reconsideration of this application are respectfully requested.

35 U.S.C. § 103

On page 2 of the Office action, claims 1-8, 16, and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 2006/0089924 to Raskutti et al. (hereinafter "Raskutti") in view of U.S. Patent No. 5,867,799 to Lang et al. (hereinafter "Lang"). It is respectfully submitted that the examiner reads too much into the primary reference (Raskutti). Raskutti does not teach the limitations of claim 1 as suggested by the examiner.

Regarding claim 1, claim 1 recites language describing the creation of the sub-filters utilized in the claim. One of the steps of creating each sub-filter is calculating a score threshold for the set of features from the second subset of training documents. The scores referred to in the published application at issue are described in paragraph [0036] which is reproduced here for convenience:

> Profile creation involves the steps of feature extraction from example documents, feature weighting, and threshold setting, with reference to a scoring function for the features and a utility function. The scoring function determines the score of a document based on the features of the document that are shared with the features in the profile. The utility function gives the relative value of delivered documents that are correctly classified (the "true positives") to delivered documents that are incorrectly classified (the "false positives"), as determined by or for the user. The threshold is the score such that documents scoring at or above threshold are accepted by the system. The threshold is ideally set to a score that maximizes expected utility.

The score threshold is further described in paragraph [0052] of the published application with reference to Fig. 1 which states:

> The score threshold 104 is used for deciding to accept or reject documents in step 106 with respect to each document based upon

> the scoring obtained in step 105. If the score of a document is above the score threshold, the document will be accepted, otherwise it will be rejected. A high score threshold would only allow a few high-scoring documents to be accepted. Most of these high-scoring documents may be expected to be relevant to the profile. On the other hand, a low score threshold would allow more documents to be accepted. However, the ratio of actually relevant documents among these accepted documents--referred to as "precision"--may be low. The correct threshold can only be determined according to the user's actual preference concerning the number of documents accepted as well as the expected precision of the accepted documents.

In rejecting claim 1, the Office action identified paragraph [0075] of Raskutti as teaching or suggesting calculating a score threshold for the set of features from the second subset. Paragraph [0075] of Raskutti states:

> The filter 33 contains information that is used by the filter applier 35 to determine a numerical score for a new message which has been converted to a term vector. The term vector provides occurrence frequencies for terms in the dictionary 27 that appear in the message. In the simplest case of an SVM with linear kernel, the filter 33 for a category is simply a vector of weights, one for each entry in the dictionary 27. The filter applier then determines a dot product between the term vector of the message and the weight vector for the category to obtain a numerical score:
>
> $$score_{ij} = \sum_{k=1}^{m} w_{ik} f_{jk},$$
>
> where w_{ik}, k=1, . . . , m is a weight vector for the category i and f_{jk}, k=1, . . . , m, is the term vector for message j.

As stated, the disclosure of paragraph [0075] describes determining a numerical score for a message. This is very different from the threshold score of claim 1 which is a bar value that allows documents which score above the threshold value to be accepted and those that score below the threshold value to be rejected. Because the cited portion of Raskutti is not describing the calculation of a threshold score but is instead describing the calculation of a document score

for a new message when that message is compared to a filter, it is respectfully submitted that the "calculating a score threshold for the set of features from the second subset" is not taught or suggested by the cited language or in any other portions of Raskutti. Because the primary reference fails to teach or suggest this limitation of claim 1, it is respectfully submitted that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Independent claim 8 contains the same feature of calculating a score threshold for the set of features from the second subset. Because this limitation of claim 8 is not taught or suggested by Raskutti, it is respectfully submitted that the rejection of independent claim 8 be withdrawn for the same reasons offered above regarding claim 1.

Returning to independent claim 1, the Office action recognizes the shortcomings of Raskutti. Specifically:

> Raskutti fails to explicitly disclose the further limitations of connecting each of said inputs of a single node, combining each of said outputs to thereby form said filter for selecting documents and storing said filter for selecting documents in a computer readable medium, said filter for selecting documents being accessible by computer readable program code for filtering and selecting documents.

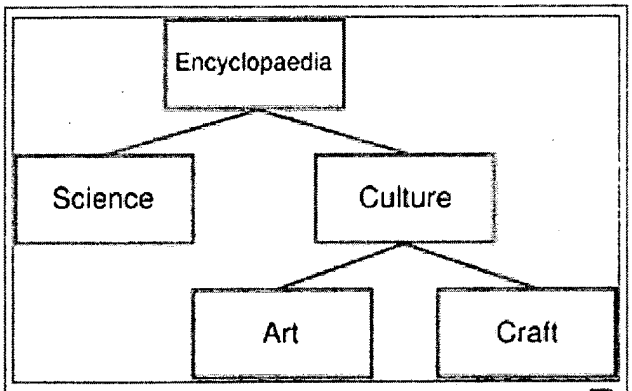
The Office looks to Lang to supply the missing teachings. Lang does not teach the limitations of claim 1 as suggested by the examiner.

The first paragraph of the detailed description of Lang is cited as teaching or suggesting the connecting each of the inputs at a single node and combining each of the outputs to form a filter for selecting documents features. The cited paragraph of Lang is included here for convenience:

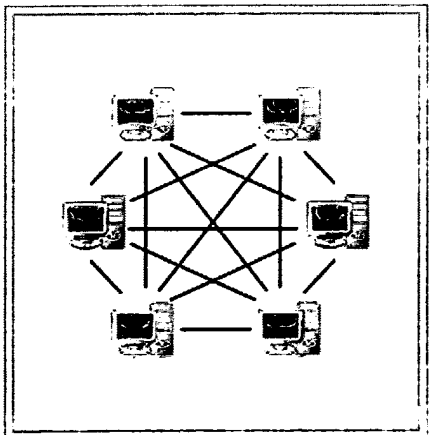
> The invention herein provides an apparatus and method for information filtering in a computer system receiving a data stream from a computer network, in which entities of information relevant to the user, or "informons," are extracted from the data stream using content-based and collaborative filtering. The invention is both interactive and distributed in structure and method. It is interactive in that communication is substantially bi-directional at each level of the invention. It is distributed in that all or part of the information filter can include a purely hierarchical (up-and-

> down/parent-child) structure or method, a purely parallel (peer-to-peer) structure or method, or a combination of hierarchical and parallel structures and method. The invention also provides a computer program product that implements selected embodiments of the apparatus and method.

While this paragraph discloses that an information filter can include a combination of hierarchical and parallel structures and methods, it is respectfully submitted that this paragraph does not teach or suggest connecting each of the sub-filter inputs at a single node and combining each of the sub-filter outputs to form a filter. For example, representations of a hierarchical structure and a peer-to-peer structure are reproduced below.



A tree structure showing the possible hierarchical organization of an encyclopedia. This specific example happens to be a complete binary tree, which means all nodes have exactly zero or two child nodes.



A peer-to-peer based network.

As can be seen from these representations, the inputs of the structure elements are not connected at a single node. Additionally, the outputs of the nodes are not combined as stated in the language of claim 1. Thus, it is respectfully submitted that the cited paragraph does not teach or suggest the claimed features of "connecting each of said inputs at a single node" and "combining each of said outputs to thereby form said filter for selecting documents."

As an additional illustration, Fig. 2 of the Lang reference (which is reproduced below for convenience) depicts an example in accordance with its disclosure. As described in Lang, col. 15, line 12 to col. 16, line 44, each of the sets of processors (first processor, second processors, third processors, and fourth processor) function as a data filter. Notice that this configuration also fails to illustrate connecting sub-filter inputs at a single node or combining sub-filter outputs to form a filter. Because Raskutti is acknowledged to be deficient, and the cited portions of Lang do not teach or suggest the claimed features of "connecting each of said inputs at a single node" and "combining each of said outputs to thereby form said filter for selecting documents," it is respectfully requested that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

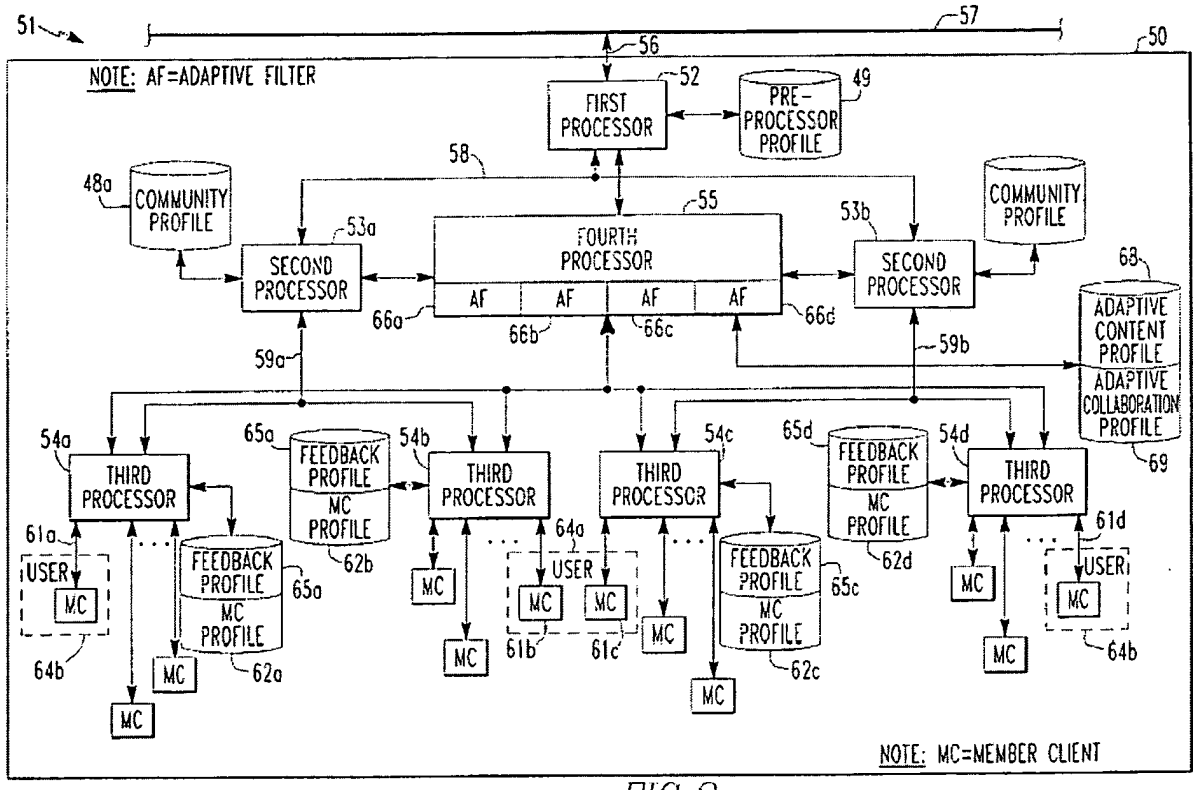


FIG. 2

Lang: Fig. 2

Regarding dependent claim 2, claim 2 recites the process of claim 1 further comprising "multiplexing said outputs of said sub-filters to create a first filter output." A multiplex filter is described in paragraph [0112] of the published application which states:

> A multiplex filter 591 with three element or constituent filters F_i 520, 525, and 526, is illustrated in FIG. 5a. (A multiplex filter is not limited to three constituent filters as given for illustration in FIG. 5a, rather can consist of i such filters, for any i.) This multiplex filter 591, made up of constituent filters 520, 525, and 526, accepts or rejects a document 510 (where document 510 is represented in terms of its features as defined above) based on some interpretation of the independent scoring of each constituent filter F_i. That is, each component filter 520, 525, and 526 accepts as input the features and associated values that describe the document 510 and scores them against the component filter

> profiles. The individual filter scores 570, 575, 580 are then aggregated using a function 595. Various aggregation functions 595 can be used for interpreting the scores of a set of filters 570, 575 and 580, ranging from some simple combination of binary outcomes (e.g., the sum of the "votes" of each filter) to a weighted, possibly non-independent scoring based on the interaction of filters.

In rejecting claim 2, the Office action cited col. 14, lines 3-12 of the Lang reference which states:

> It is preferred that the adaptive filtering performed within filter means 21 by the plurality of filters 27a,b, 28a-e, and 35, use a self-optimizing adaptive filtering so that each of the parameters processed by filters 27a,b, 28a-e, and 35, is driven continually to respective values corresponding to a minimal error for each individual parameter. Self-optimization encourages a dynamic, marketplace-like operation of the system, in that those entities having the most desirable value, e.g., highest credibility, lowest predicted error, etc., are favored to prevail.

It is respectfully submitted that this paragraph of Lang does not discuss "multiplexing said outputs of said sub-filters to create a first filter output." Instead, this paragraph discusses the self-optimization of individual filters to reduce errors. Because there is no teaching or suggestion of multiplexing the outputs of sub-filters to create a first filter output in the cited language, it is respectfully submitted that the rejection of claim 2 under 35 U.S.C. § 103(a) be withdrawn.

Similarly, the Office action rejected claim 4 by citing the same paragraph of the Lang reference. Claim 4 recites the process of claim 3 (which depends from claim 2) further comprising "aggregating said first filter output and said second filter output using a function." As stated above, the cited paragraph of Lang discusses the self-optimization of adaptive filtering to minimize error. This is completely unrelated to multiplexing filter outputs and in particular to aggregating filter outputs using a function. Because the cited paragraph does not teach or suggest the feature of claim 4, it is respectfully submitted that the rejection of claim 4 under 35 U.S.C. § 103(a) be withdrawn.

Applicant at this time has not submitted any arguments in support of the patentability of the other dependent claims. It is believed that independent claims 1 and 8 are now in condition for allowance such that all of the dependent claims which depend therefrom are also in condition for allowance.

Applicant has made a diligent effort to place the instant application in condition for allowance. Accordingly, a Notice of Allowance for pending claims 1-8 and 16-17 is respectfully requested. If the examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the examiner is respectfully requested to contact applicant's attorney at the telephone number listed below.

Respectfully submitted,

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